

554,149

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



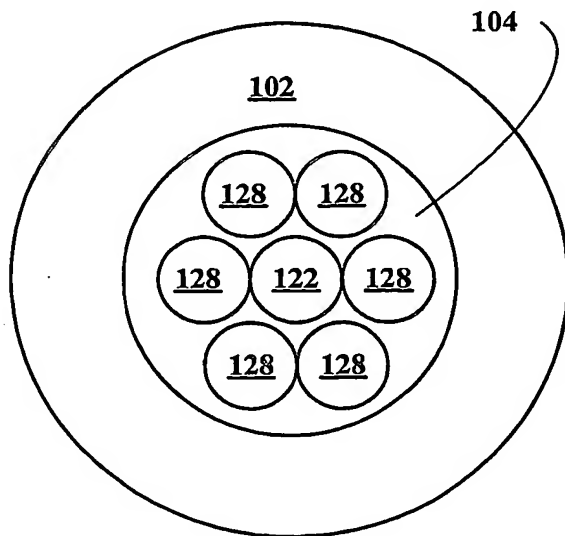
(43) International Publication Date  
11 November 2004 (11.11.2004)

PCT

(10) International Publication Number  
**WO 2004/096082 A2**

- (51) International Patent Classification<sup>7</sup>: **A61F**
- (21) International Application Number:  
PCT/US2004/012758
- (22) International Filing Date: 26 April 2004 (26.04.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/465,134 24 April 2003 (24.04.2003) US
- (71) Applicant (for all designated States except US): **THE BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM** [US/US]; 201 W. 7th Street, Suite 820, Austin, TX 78701 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **ESENALIEV, Ri-nat, O.** [US/US]; 6315 Central City Blvd. #117, Galveston, TX 77551 (US). **PROUGH, Donald S.** [US/US]; 2602 Avenue 0, Galveston, TX 77550 (US).
- (74) Agent: **STROZIER, Roibert**; P.O. Box 429, 5300 Braeswood Blvd., #369, Houston, Texas 77402 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **NONINVASIVE BLOOD ANALYSIS BY OPTICAL PROBING OF THE VEINS UNDER THE TONGUE**



(57) Abstract: A method for analysis of blood components or parameters is disclosed where a probe having an excitation outlet and a response inlet is placed in proximity to or in contact with a tissue of an underside of a patient's tongue over a big vein in the tongue so that an excitation signal exits the outlet, produces a response which enters the inlet for detection and analysis.

WO 2004/096082 A2